

# MISSOURI CONSERVATIONIST

VOLUME 80, ISSUE 6, JUNE 2019  
SERVING NATURE & YOU



# 3 Things You Can Do to Help Monarchs AND Pollinators

## 1 Plant Natives

Native plants are a food source for monarch butterflies and other pollinators. Add the plants shown below to your landscape.

## 2 Keep it Blooming

Keep something in bloom each season. Some species bloom all year, others only in April and May, still others in July and August. Learn more at [mdc.mo.gov/monarch](http://mdc.mo.gov/monarch).

## 3 Get Involved

Protect native grasslands, provide nesting places, and become a wildlife gardener. To learn how, visit [GrowNative.org](http://GrowNative.org).



Common milkweed



New England aster



Showy goldenrod



Prairie blazing star



Wild bergamot



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VOLUME 80, ISSUE 6



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## MISSOURI CONSERVATIONIST



### ON THE COVER

Spotted salamander

**NOPPADOL PAOTHONG**  
100mm macro lens  
f/16, 1/250 sec, ISO 100

**GOVERNOR**  
Michael L. Parson

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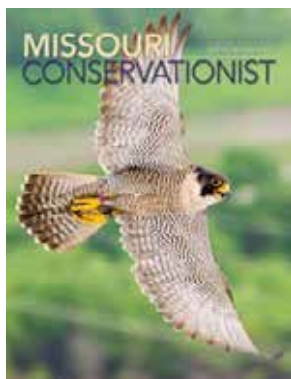
# Inbox



## Letters to the Editor

Submissions reflect readers' opinions and may be edited for length and clarity. Email [Magazine@mdc.mo.gov](mailto:Magazine@mdc.mo.gov) or write to us:

MISSOURI  
CONSERVATIONIST  
PO BOX 180  
JEFFERSON CITY, MO 65102



## APRIL ISSUE

My husband says the April issue is the best he has ever read. He has been reading the *Conservationist* for more than 40 years. We've been married 35 years and have received a monthly copy of it since.

Barbara Wholey  
Kansas City

## HOORAY FOR ARBOR DAY

I want to thank the Missouri Department of Conservation for the trees my daughter received. The first thing she said to me after school was that she had received "two free trees." During our very excited conversation, she told me everything she knew about her new red oak trees, and I learned that the department was responsible for donating the trees to her class.

I have thoroughly enjoyed the hours of conversation these two little trees have inspired between me and my daughter. Who would've thought two little trees would mean that much to a young girl and inspire her like they have.

On a side note, my 6-year-old daughter recently accompanied me on a paddlefish snagging trip. She was able to aid me in reeling in a 48 lb. paddlefish. Another wonderful experience for a Missouri youth.

Thank you not only for the two trees, but for all the opportunities the department helps to create for my family.

Jeff Berendzen via email

## HUNTING FOR HUCKLEBERRIES

Your article on Huckleberry Ridge Conservation Area [April, Page 30] brought back 80-year-old childhood memories of going to that area, then locally known as Huckleberry Special, to pick the delicious berries that grew not far off the old gravel road. We would come from the neighboring town of Jane with our lard buckets to gather a supply to enjoy eating in grandmother's huckleberry cobbler. The berries were plentiful. It's a shame they are so scarce today.

Gerald Nichols Houston, Texas

*Though huckleberries may be scarce, they have not disappeared from the landscape at Huckleberry Ridge Conservation Area. Several patches have been found already this season in the area. —THE EDITORS*



Western foxsnake

## SNAKE THIEVES

I was interested in your article regarding illegal snake trade in Missouri [*Snake Thieves*, April, Page 22]. I was unaware of the problem. I am, however, very aware of the killing of snakes by people that consider them to be a nuisance or even a threat.

As a child growing up near Forest Park in St. Louis in the 50s, I enjoyed seeing gartersnakes in the park. Probably the neatest snake I have seen in the wild in Missouri was a speckled kingsnake.

Ken Piper via email

I really enjoyed reading your article about snakes. I have been playing with snakes since I was a kid. I always try to tell people, please don't kill them! Snakes are good. Leave them alone. Thanks again.

Edward Hanrahan Florissant

## TALKING TURKEY

My grandson and I attended a Youth Turkey Clinic in Clinton. Neither of us have ever been turkey hunting. I was impressed with the enthusiasm and professionalism of the staff and instructors. We had a great time and learned a lot. Thank you for the opportunity to explore a new hobby with such knowledgeable people.

Steve Epstein and Ethan Perrin via email

## CORRECTION

Duck Creek Conservation Area is located southwest of Cape Girardeau, not southwest of Joplin as was stated in the May issue of the *Missouri Conservationist* [Page 30]. In addition, the fishing lake is 1,800 acres, not 18,000.

WESTERN FOXSNAKE: INOPADOL PAOTHOONG

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573-751-4115 | PO Box 180, Jefferson City, MO 65102-0180

## Regional Offices

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## Have a Question for a Commissioner?

Send a note using our online contact form at [mdc.mo.gov/commissioners](http://mdc.mo.gov/commissioners).



### Want to see your photos in the Missouri Conservationist?

Share your photos on Flickr at  
flickr.com/groups/mdcreaderphotos-2019,  
email Readerphoto@mdc.mo.gov,  
or include the hashtag #mdcdiscovernature  
on your Instagram photos.



1

1 | Brown  
thrasher by  
RaDel Hinckley,  
via Flickr

2 | Rabbit  
kits by Dean  
Schuchardt, via  
email

3 | Nature meet  
up by they.were.  
born.wild, via  
Instagram



2



3

### MISSOURI CONSERVATION COMMISSIONERS



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# Up Front

with Sara Parker Pauley

✱ What a glorious spring it was with tales of successful turkey hunts and the haunting memories of birds that got away! More important was the time afield, gazing at the night sky and listening to the whippoorwills before first light painted a contrasting picture of the woods.

Perhaps the most treasured of spring memories was time in turkey camp with dear friends, where turkey tales and savored meals were shared. One night, even poetry was recited. My selection was *The Man from Snowy River* by Banjo Patterson, one of my favorites. One line in the poem aptly describes the end of my turkey season. As the rancher sees the wild horses go out of site, he claims to the other riders, "We may bid the mob good day!" On the last day of the season, as the bird I'd been chasing preferred the neighbor's green pastures to the woods on my side of the fence, I uttered, "We may bid the gobbler good day!"

There is always next year, and, until then, there is much to do now that summer is upon us. Our Missouri lakes are alive with bass, blue gill, catfish, and more. The woods and fields are full of melodies and colors for our bird-watchers. And let's not forget that squirrel hunting opened on May 25 (read more on Page 16).

Dishes and laundry can wait, my conservation friends. Outdoor summer memories are yours for the making.

*Sara Parker Pauley*

**SARA PARKER PAULEY**, DIRECTOR  
SARA.PAULEY@MDC.MO.GOV

The *Missouri Conservationist* (ISSN 0026-6515) is the official monthly publication of the Missouri Department of Conservation, 2901 West Truman Boulevard, Jefferson City, MO (Mailing address: PO Box 180, Jefferson City, MO 65102.) **SUBSCRIPTIONS:** Visit [mdc.mo.gov/conmag](http://mdc.mo.gov/conmag), or call 573-522-4115, ext. 3856 or 3249. Free to adult Missouri residents (one per household); out of state \$7 per year; out of country \$10 per year. Notification of address change must include both old and new address (send mailing label with the subscriber number on it) with 60-day notice. Preferred periodical postage paid at Jefferson City, Missouri, and at additional entry offices. **POSTMASTER:** Send correspondence to Circulation, PO Box 180, Jefferson City, MO 65102-0180. Phone: 573-522-4115, ext. 3856 or 3249. Copyright © 2019 by the Conservation Commission of the State of Missouri.

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[mdc.mo.gov](http://mdc.mo.gov) 3

# Nature LAB

by Bonnie Chasteen

Each month, we highlight research MDC uses to improve fish, forest, and wildlife management.

## FOREST HEALTH

### Gypsy Moth Monitoring

✖ “What’s at stake?” asked MDC Forest Entomologist Robbie Doerhoff. “More than 12 million acres of oak-dominated forest.”

She’s talking about Missouri’s annual efforts to monitor the gypsy moth. This European species was accidentally released in the Boston area in 1869, and it has since become one of the most destructive forest pests in the U.S.

Currently, the gypsy moth ranges from Maine to Wisconsin, through northern Illinois, and into Ohio and Virginia. Every year, gypsy moth caterpillars defoliate over a million acres of forest and cost citizens an estimated \$868 million in damages.

While Missouri has no current infestations, monitoring efforts detected gypsy moths in Dent and Taney counties in the 1990s. These infestations were successfully eradicated.

MDC Forest Pathologist Natalie Diesel noted that the gypsy moth caterpillar eats 300 species of trees and shrubs, “but it loves oaks.”



Forest Entomologist Robbie Doerhoff checks traps for male gypsy moths.



Annual efforts keep invasive pest from devastating Missouri’s oak forests

After this pest becomes established in a new area, its numbers can periodically reach outbreak levels.

“Millions of caterpillars devour all the leaves off of trees — even entire forests — in early spring. This feeding damage is a major source of stress, which can make trees vulnerable to an array of secondary insect and disease issues,” Doerhoff said.

“Our traps contain a pheromone lure that attracts male gypsy moths,” Diesel said. “Once inside, moths are captured by the trap’s sticky inner walls.”

Monitoring efforts have captured about 500 male gypsy moths over the last 51 years. “With annual statewide monitoring, we have a shot at eradicating this pest if we detect it early,” Doerhoff said.

### Gypsy Moth Monitoring at a Glance

**1967**

Year gypsy moth monitoring began

**10**

Number of seasonal monitoring staff

**2-10**

Number of **male gypsy moths** detected annually

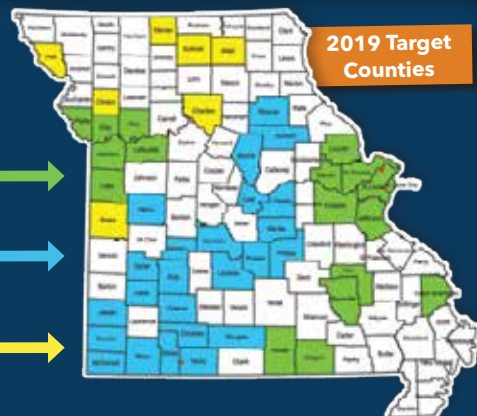
**12.2 million**

Acres of Missouri oak forests at risk



#### Monitoring partners:

- ✖ Missouri Department of Conservation
- ✖ Missouri Department of Agriculture
- ✖ U.S. Department of Agriculture
- ✖ U.S. Army / Fort Leonard Wood
- ✖ Missouri National Guard



2019 Target Counties

**6,000-8,000**

Number of traps deployed every summer



# In Brief

News and updates from MDC



## GET HOOKED ON FISHING

FREE FISHING  
DAYS, GEAR,  
AND LESSONS

➔ Anyone can fish during Free Fishing Days June 8-9 without a fishing permit, trout permit, or trout park daily tag. Other fishing regulations remain in effect, such as size and bag limits. For more information on Missouri fishing regulations, fish identification, and more, get a copy of the *2019 Summary of Missouri Fishing Regulations*, available where permits are sold or online at [short.mdc.mo.gov/Zq3](https://short.mdc.mo.gov/Zq3).

Want to fish, but don't have the gear? Through MDC's Rod and Reel Loaner Program, you can borrow a rod with a standard spincast reel, a small tackle box with hooks, sinkers, bobbers, and a stringer to hold your catch. The program is available at more than 100 locations across the state, including many libraries, MDC offices and nature centers, some state parks, and several marinas. You need to provide your own live bait or lures. For a list of loaner locations, visit [mdc.mo.gov/RodandReelLoanerProgram](https://mdc.mo.gov/RodandReelLoanerProgram).

Need to learn how to fish? MDC's Discover Nature—Fishing program offers a series of free lessons by experienced anglers that covers equipment, casting, proper fish handling, tying hooks, stocking a tackle box, fish identification, how to release a fish, regulations, and other topics. Get more information at [dnf.mdc.mo.gov](https://dnf.mdc.mo.gov).



### APPLY FOR MANAGED DEER HUNTS

Starting July 1, deer hunters can apply online for a chance at more than 100 managed deer hunts around the state for archery, alternative methods, and modern firearms at [mdc.mo.gov/managedhunt](http://mdc.mo.gov/managedhunt). Some managed hunts are held specifically for youth or for people with disabilities. Details about managed hunts can also be found in the *2019 Fall Deer & Turkey Hunting Regulations and Information* booklet, available starting in early July at MDC offices and nature centers, from permit vendors around the state, and online at [mdc.mo.gov](http://mdc.mo.gov). Hunters have until July 31 to apply.

### PRACTICE FIRE SAFETY THIS SUMMER

As you enjoy the outdoors this summer, be careful with fireworks, campfires, and other sources of fire that could cause a wildfire.

Don't light fireworks in areas where sparks could ignite dry grass, leaves, or other potential fire fuel. Wet the area where fireworks are being discharged and always have a fire extinguisher available. Check local ordinances for bans on fireworks and open burning. **Fireworks are not allowed on MDC areas.**

Making a campfire? Clear a generous zone around fire rings. Store firewood a good distance from a campfire. Never use flammable liquid to start a fire. Keep campfires small and controllable. Keep fire-extinguishing materials close, such as a rake, shovel, and bucket of water. Extinguish unattended campfires.

Check your vehicle for fuel leaks before driving on a grassy field. Wildfires can start when dry fuel, such as grass, meets hot vehicle undersides.

Don't burn during wrong conditions. Dry grass, high temperatures, low humidity, and wind make fire nearly impossible to control. Check with local fire departments regarding burn bans. Fire used in the wrong way can create disasters. Used in the right way, fire can help create habitat for wildlife. For more information on using prescribed fire as a land-management tool, visit [mdc.mo.gov/prescribedfire](http://mdc.mo.gov/prescribedfire).

Call 911 at the first sign of an out-of-control fire. Wildfires are sometimes set by vandals. Help stop arson by calling 800-392-1111 and reporting potential arson activities.

## Ask MDC

### Got a Question for Ask MDC?

Send it to [AskMDC@mdc.mo.gov](mailto:AskMDC@mdc.mo.gov)  
or call 573-522-4115, ext. 3848.

### Q: What are the key differences between common snapping turtles and alligator snapping turtles?

➔ Common snapping turtles are a game species frequently found in Missouri's farm ponds, streams, and lakes. But because they resemble the far-more-rare alligator snapping turtle, an animal that's unlawful to capture or kill, it's easy to confuse the two. With a few tips, telling these two turtles apart is a "snap."

Here's what you need to know:

- Common snapping turtles have low ridges that follow the contours of their shells and smooth out as they grow older. Alligator snappers have rows of spiky raised keels.
- Looking down on a common snapper, you can see their eyes from above. With alligators, you can't.
- Common snappers have smaller heads and smaller beaks; alligators have larger heads and more-prominent hooked beaks.
- On their tails, common snappers grow raised, saw-toothed bumps; in contrast, alligator snappers have round bumps.
- The hatchlings look different, too. Common snapper hatchlings are grayish-brown with white spots on their under shell. Alligator hatchlings are orangy-brown with no white spots on their shells.
- Finally, they live in different parts of Missouri. Alligator snapping turtles prefer the Bootheel's big rivers, deep sloughs, and oxbow lakes. Common



Common snapping turtle



Alligator snapping turtle

snappers make their homes statewide.

Now that you know the difference, our biologists would like your help in locating alligator snapping turtles. If you see one, please take a photo and send it, along with the location, to [askmdc@mdc.mo.gov](mailto:askmdc@mdc.mo.gov).

### Q: Can you tell me why Cape Girardeau experienced a decline of firefly activity last summer? Most summers, they are all over the place. Last summer, I hardly saw them.

➔ Populations of fireflies, as well as many other insects, vary

from year to year. Several studies, including a long-term, 31-year study in Japan, have shown that extreme environmental conditions, such as drought and flooding, can influence numbers of fireflies.

Commonly called lightning bugs, fireflies are beetles in the family Lampyridae. The larvae, the active, immature form of these beetles, are predatory and feed on a variety of other small invertebrates. Most firefly species' larvae prefer damp, humid habitats with cover to hide in during the day. Favorable weather conditions can improve the availability of both habitat and prey, leading to larger populations.

The simple answer is, fluctuations in insect populations over time and space are completely normal. Although Cape Girardeau may have experienced a decline in 2018, mid-Missouri experienced a bumper crop last summer.

**Q. I have seen a northern mockingbird behaving strangely. Every morning, and occasionally in the early**

**evening, it sits on a power line near my home, jumps straight up in the air 9 or 10 feet, does a flip, and comes straight down. This can go on for more than 20 minutes. What is going on here?**

➔ You are witnessing one of the male northern mockingbird's courting rituals. Male birds of nearly all species perform some sort of courtship display to attract a female mate for the breeding season. Even singing is a form of courtship behavior. Some of these displays last through the duration of the breeding season from spring to the end of summer. This ascending flight, followed by a tumbling fall back to a perch, is a common one for mockingbirds. Another display that builds a pair bond includes a male and female chasing each other through a male's territory, likely to check out resources and the territory's boundaries.



Northern mockingbird

## What IS it?

Can you guess this month's natural wonder?

The answer is on Page 8.



## Matthew Bryant

HICKORY COUNTY  
CONSERVATION AGENT

*offers this month's*

# AGENT ADVICE

As summer settles in across Missouri, more people head to the water. Many conservation areas have access to water where visitors can fish, float, boat, or simply enjoy the day. Before you head out, take a few safety precautions. Always know the water conditions at your intended destination. If you are boating, kayaking, or using any other vessel, make sure there are life jackets for each person on board. In addition, any passengers 6 years and younger must wear their jackets at all times. Stay hydrated and wear sunscreen or protective clothing. Finally, be sure you take out what you bring in. Leave the area better than you found it. A safe day on the water is a fun day.



## ELDERBERRY SYRUP

Large quantities of elderberries are ripe for the picking by midsummer. Scout your location and plan a picking party with your friends and family. While you're waiting for these purple beauties to be at their peak by August, Missouri offers a bounty of other berries all summer long, including blackberries, gooseberries, strawberries, raspberries, and more. Try them in syrup, too!

*Makes 1 cup of syrup*

**¾ pound elderberries (2 packed cups)**  
**1½ cups water**  
**1 cup sugar**  
**1 teaspoon fresh lemon juice**

**PUT** the elderberries in a large, nonreactive pot with the water. Bring to a boil, then reduce heat to a low boil and cook for 15 to 20 minutes, until berries are soft. Press through a fine sieve using a large spoon and discard the skins.

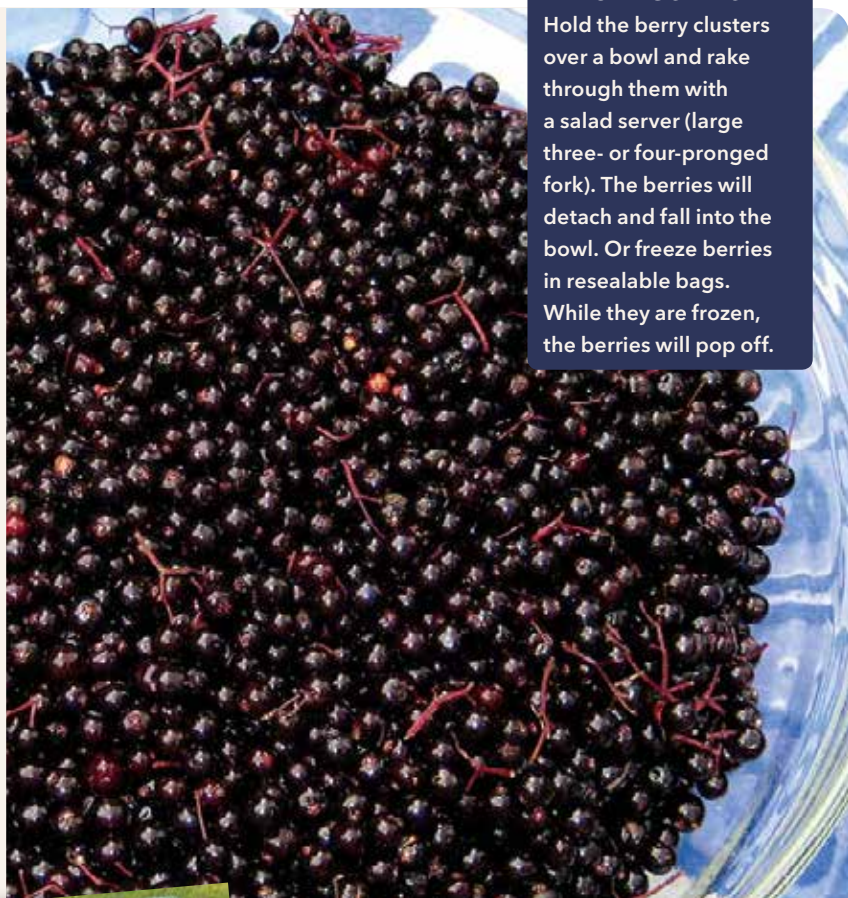
**POUR** the juice back into the pot, add sugar, and cook at a low boil over moderate heat for 15 minutes, until the syrup has thickened. It will thicken even more after it cools, so amount yielded depends somewhat upon how long it is cooked. Add lemon juice and cool completely. Pour into a jar and store in the refrigerator. It keeps for several months.



This recipe is from *Cooking Wild in Missouri* by Bernadette Dryden, available for \$16 at [mdcnatureshop.com](http://mdcnatureshop.com). Whether you hunt, fish, or forage, you'll enjoy *Cooking Wild in Missouri*, a collection of more than 100 delicious, kitchen-tested recipes featuring game, fish, nuts, fruits, and mushrooms. There's a section for appetizers, fresh salads, savory stews, elegant entrees, and delectable desserts. Suitable for the novice or advanced cook.

### TRICK FOR REMOVING STEMS

Hold the berry clusters over a bowl and rake through them with a salad server (large three- or four-pronged fork). The berries will detach and fall into the bowl. Or freeze berries in resealable bags. While they are frozen, the berries will pop off.



## WHAT IS IT? DIAMONDBACK SPITTLEBUG

As spittlebug nymphs feed on juices from a host plant, they secrete a mass of foam. The small diamondback spittlebug nymph — light green with black undeveloped wings on its back — nestles on the plant stalk as the frothy foam flows. The bubbly foam conceals the wingless nymph and tempers the effects of hot and cool breezes, keeping its body moist and protecting it from the sun's glare.



## UPCOMING MIGRATORY GAME BIRD AND WATERFOWL HUNTING SEASONS

### ✦ 2019 Migratory Game Bird Hunting

**Mourning Doves, Eurasian Collared Doves,  
and White-Winged Doves**

**Season:** Sept. 1 through Nov. 29

**Limits:** 15 daily and 45 in possession combined  
total for all three species

**Hours:** One-half hour before sunrise to sunset

**Sora and Virginia Rails**

**Season:** Sept. 1 through Nov. 9

**Limits:** 25 daily and 75 in possession  
combined for both species

**Hours:** One-half hour before sunrise to sunset

**Wilson's (Common) Snipe**

**Season:** Sept. 1 through Dec. 16

**Limits:** Eight daily and 24 in possession

**Hours:** One-half hour before sunrise to sunset

**American Woodcock**

**Season:** Oct. 15 through Nov. 28

**Limits:** Three daily and nine in possession

**Hours:** One-half hour before sunrise to sunset

### ✦ 2019-2020 Waterfowl Hunting

**Teal**

**Season:** Sept. 7-22

**Limits:** Six daily and 18 in possession

**Hours:** Sunrise to sunset



### Nontoxic Shot Requirement

Shells possessed or used while hunting waterfowl and coots statewide, and for other species as designated by posting on public areas, must be loaded with material approved as nontoxic by the U.S. Fish and Wildlife Service. MDC reminds hunters of new regulations that require the use of nontoxic shot for all hunting with shotguns on 16 more conservation areas in addition to its existing 21 areas where nontoxic shot is required for all hunting with shotguns. New regulations also require the use of nontoxic shot on 20 conservation areas managed for dove hunting. For more information, get a copy of the *2019-2020 Migratory Bird and Waterfowl Hunting Digest*, available where permits are sold beginning in July, or visit [short.mdc.mo.gov/ZNP](http://short.mdc.mo.gov/ZNP).

**Ducks**

**Season:**

- North Zone: Nov. 2 through Dec. 31
- Middle Zone: Nov. 9-15 and  
Nov. 21 through Jan. 12, 2020
- South Zone: Nov. 28 through Dec. 1 and  
Dec. 7 through Jan. 31, 2020

**Bag Limit:** Six ducks daily with species  
restrictions of:

- Four mallards (no more than two females)
- Three scaup
- Three wood ducks
- Two redheads
- Two hooded mergansers
- One pintail (new limit)
- Two canvasbacks
- Two black ducks
- One mottled duck

**Possession Limit:** Three times the daily bag or  
18 total, varies by species

**Hours:** One-half hour before sunrise to sunset

**Coots**

**Season:** Same as duck season dates in the  
respective zones

**Limits:** 15 daily and 45 in possession

**Hours:** One-half hour before sunrise to sunset

**Snow Geese (White and Blue Phases) and  
Ross's Geese**

**Season:** Nov. 11 through Feb. 6, 2020

**Limits:** 20 blue, snow, or Ross's geese daily  
with no possession limit

**Hours:** One-half hour before sunrise to sunset

**White-Fronted Geese**

**Season:** Nov. 11 through Feb. 6, 2020

**Limits:** Two daily and six in possession

**Hours:** One-half hour before sunrise to sunset

**Canada Geese and Brant**

**Season:** Oct. 5-13 and Nov. 11 through Feb. 6,  
2020

**Limits:** Three Canada geese and Brant in  
aggregate daily, nine in possession

**Hours:** One-half hour before sunrise to sunset

**Light Goose Conservation Order**

**Season:** Feb. 7 through April 30, 2020

**Limits:** No daily or possession limits

**Hours:** One-half hour before sunrise to one-half  
hour after sunset

**YOUTH HUNTING DAYS**

- North Zone: Oct. 26 and 27
- Middle Zone: Oct. 26 and 27
- South Zone: Nov. 23 and 24

**Limits:** Same as during regular waterfowl season

**Hours:** Same as during regular waterfowl season

### ✦ Falconry Seasons

**Falconry Season for Doves**

**Season:** Sept. 1 through Dec. 16

**Limits:** Three daily and nine in possession,  
singly, or in the aggregate (any ducks, coots,  
or mergansers taken by falconers must be  
included in these limits)

**Hours:** One-half hour before sunrise to sunset

**Falconry Season for Ducks,  
Coots, and Mergansers**

**Season:** Open during waterfowl seasons (teal,  
youth, and duck) and Feb. 11 through March  
10, 2020

**Limits:** Three daily and nine in possession,  
singly, or in the aggregate during the regular  
duck-hunting seasons (including teal and youth  
seasons) and extended falconry seasons (any  
doves taken by falconers must be included in  
these limits)

**Hours:** One-half hour before sunrise to sunset



These covert critters are one of Missouri's most common salamanders.



# Spotted *Salamanders*

LIVING  
LIFE  
UNDERCOVER

by Jan Wiese-Fales

photographs by  
Noppadol Paothong



Spotted salamanders (*Ambystoma maculatum*) live solitary lives under leaf litter on damp forest floors where moist woodlands help them preserve necessary skin moisture. They bide their time during daylight hours in small holes made by animals like the short-tailed shrew, in hollow logs, and spaces left in the soil by rotting logs. They emerge during rain and under the cover of night for sustenance and mating rituals.

The amphibians' secrecy means the 6- to 8-inch, dark-bodied salamanders with lighter-colored bellies and two irregular rows of yellow and/or orange spots are rarely

glimpsed in the forested areas they inhabit in the lower two-thirds of Missouri.

One of 20 species of salamanders native to the state, spotted salamanders are members of the mole salamander family, so-named because of their undercover lives.

Spotted salamanders remain elusive even to experts like Missouri State Herpetologist Jeff Briggler, who has worked extensively with pond-breeding amphibians throughout his career.

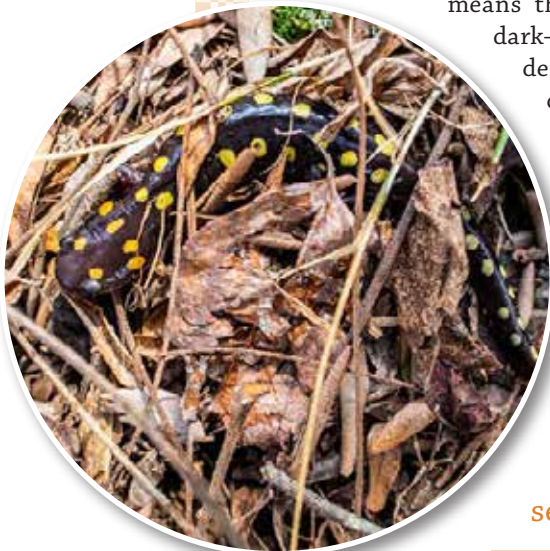
"Approximately 95 percent of spotted salamanders' lives are spent in the forest. Even though they're one of the most common salamanders we have, most people have never seen one," he said. "Outside the breeding season, I've only seen a few in my lifetime."

But during the breeding season, he has seen and captured thousands.

### Dance in the Dark

Briggler has witnessed the voiceless spotted salamander's annual migration to shallow, often seasonal, woodland ponds to breed, a ritual prompted by either a snowmelt or first heavy rains in late February and early March.

"I was out in the forest in the heart of the Ozarks at night. It was raining, and the wind was blowing and when the rain




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"Approximately 95 percent of spotted salamanders' lives are spent in the forest. Even though they're one of the most common salamanders we have, most people have never seen one." —Missouri State Herpetologist Jeff Briggler

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stopped, I could hear the salamanders moving through the leaves toward a nearby breeding wetland.

Male spotted salamanders arrive at ponds first, enter the water, and produce a capsule containing a mass of sperm, called a spermatophore. When females arrive, males wiggle around in what has been romantically referred to as a “dance in the dark.” The swaying and nudging encourages females to take the spermatophore into their cloaca — an orifice underneath the salamander just past its hind legs — in order to fertilize the eggs they will lay. Briggler said he suspects the patterns and colors displayed by males in the nighttime dance are enticing to the females.

In a pond with potentially hundreds of writhing salamanders, this ritual can be a spectacle. However, Briggler warns, woodland pools are often shallow and can be murky after spring rains, obscuring even the dancers from a front row seat.

“You have to be there at the peak time to see it. I’ve been out thousands of nights and often never witnessed the mating ritual due to turbid water,” he said.

Fertilization is accomplished as the females lay 300 to 400 eggs in a jellylike mass that helps protect them from freezing temperatures and predators. In four to eight weeks, depending on temperature, the eggs hatch into tadpolelike creatures, distinguishable by feathery protuberances called gills on both sides of their heads. Before they leave the pond as 2- to 2½-inch adolescents with functioning lungs, these gills are used for respiration.

Spotted salamander larvae feast on small aquatic insects, including mosquito larvae. In turn, they make tasty meals for fish and other aquatic predators sharing their spaces and are themselves cannibalistic if other food is scarce. A very small percentage of larval salamanders make it to adolescence.

## Spots and Favored Breeding Spots

“By late July or early August, the salamanders are ready to leave the water,” said Briggler. “They have no spot pattern at first. It starts to form on the tail and moves upward.”

Briggler estimates it takes the spots a couple of months to form, roughly expressed in two irregular lines and often darker up near the head. Spot patterns vary from salamander to salamander.

“In the Bootheel, their spots are brilliantly orange but are lighter in other parts of the state,” Briggler said.

A study on the effects of forest fragmentation on salamanders showed an increase in irregular, nonsymmetrical spot patterns.

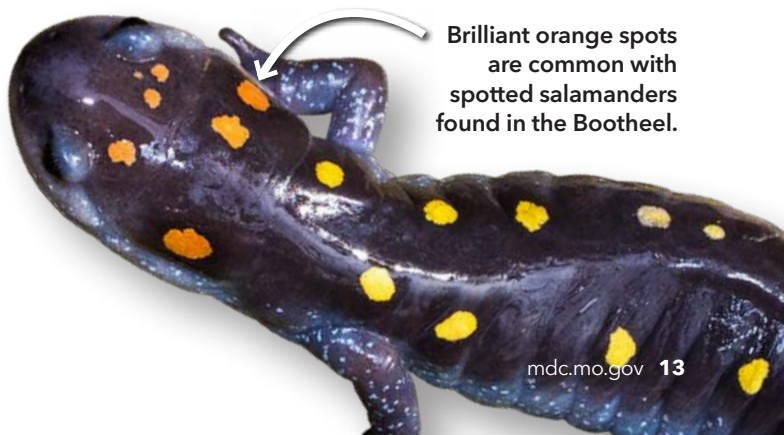
“Spotted salamanders rarely venture out into a pasture,” he said. “They are a forest species and need small fishless ponds to reproduce. There is a high likelihood they will return to the same pond every year. Even if the pond is drained, there will be salamanders continuing to return.”

Briggler said he receives calls from homeowners every year about spotted salamander invasions in places where breeding ponds have been eliminated.

“And if trees are bulldozed near breeding ponds, the number of animals going to that pond — now on the edge of a forest — will dramatically decrease.”



Salamander eggs are typically found along the bed of a shallow pond.



Brilliant orange spots are common with spotted salamanders found in the Bootheel.



A salamander catches an earthworm with its sticky tongue.



Because many of these ponds are temporary bodies, there also is the danger they might dry out before the salamanders mature, and Briggler said, if there isn't enough moisture on the ground due to lack of snowmelt or rain events, the possibility exists they won't breed at all that year.

Mature spotted salamanders can live up to 20 years or longer. Their sticky tongues are used to catch earthworms, spiders, snails, slugs, other small invertebrates, and even "pinkies," or baby mice. A number of woodland creatures make meals of spotted salamanders including snakes, raccoons, skunks, and opossums, though salamanders are not totally defenseless against their hungry enemies.

"Salamanders release a substance at the base of their tail that is sticky and will gum up the mouth of a snake, in some cases causing it to release the salamander," said Briggler. "If you handle a lot of salamanders, the sticky substance will dry and peel off your hands like glue."



## Science and Salamanders

Surprisingly, the unassuming spotted salamander is of great interest to researchers for a couple of reasons: its unique symbiosis with a green alga, and its ability to regenerate nearly any of its body part after it has been damaged.

In 1888, a biologist noticed a green hue to the eggs of some spotted salamanders and incorrectly speculated that algae (*Oophila amblystomatis*) existed in some sort of close relationship to the eggs. But research has shown the alga enters and grows within egg cases and continues to live in the cells of juvenile and adult salamanders. It is the only known example of this type of a cellular relationship in a vertebrate species.

Though tolerated by the salamanders through gene expression, it seems the relationship is quite stressful to the algae, even changing the way they produce energy. Though the exact nature of the relationship is unclear, scientists believe the fact that the two cells are radically changing each other could prove relevant in human genetic research.

Scientists are also quite intrigued with the spotted salamander's amazing feat of regenerating nearly any part of its body that is damaged.

"Salamanders who have lost tails or other body parts because they were bitten off by predators or due to other injuries can regenerate those parts," Briggler said, and added that while some lizards can choose to jettison their tails if they are grabbed, spotted salamanders — which are not lizards — only lose their tails to injury.



Salamanders have been known to regenerate tails, jaws, legs, eyes, and even hearts by doing a reshuffling and reassigning of cell specialties at the site of the wound. The intricate process involves sets of undifferentiated cells known as blastemas that can form limbs and organs complete with tissue, bone, muscle, and circulatory systems.

## More Than Meets the Eye

If Missouri citizens want to learn more about salamanders on their own, Briggler said it's legal to possess up to five amphibians, which include some species of salamanders, in Missouri. However, it would not be legal to catch such animals from public lands to sell, breed, or for any commercial use. Briggler recommends checking MDC's *Wildlife Code* for specific regulations.

"Because they remain hidden most of the time, spotted salamanders don't make the greatest pets," he cautioned. "The reason that a lot of education centers don't display most salamanders is because of their moisture requirement, cage maintenance, and because salamanders naturally want to stay hidden. But if you drop in a few crickets, they'll likely come out to eat."

Spotted salamanders require a moist substrate — 4 to 5 inches of organic potting soil — and a bowl of water. And the bedding needs to be changed regularly.

"There's still so much we do not know about spotted salamanders, as well as many other smaller salamanders found in Missouri," Briggler said. "Transmitters are just now getting small enough to track spotted salamanders, so we can learn more about their dispersal capability for better management of this secretive animal." ▲

*Jan Wiese-Fales is a freelance writer who lives in Howard County and enjoys camping, hiking, floating, and photographing in Missouri's spectacular wild outdoors.*







# SQUIRREL HUNTING

# 101

BECOMING A SQUIRREL HUNTER

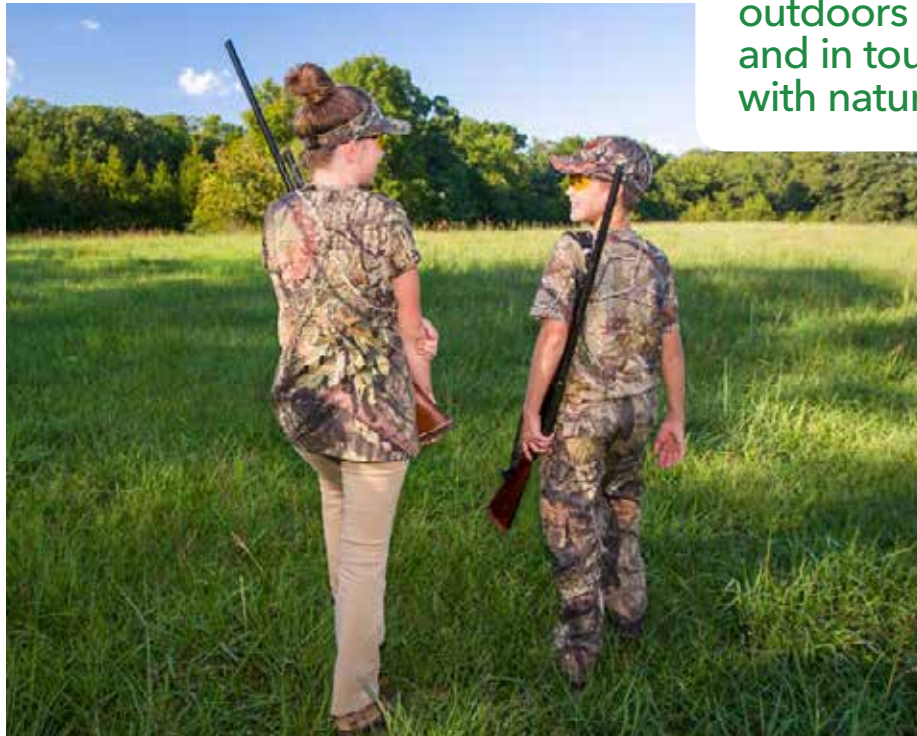
by Dave Hoover • photographs by Noppadol Paothong



**W**hether you're an avid hunter or just thinking about getting started, a purveyor of locally sourced food or looking to get kids outdoors, squirrel hunting has something for you. In Missouri, few game species are as widespread and underutilized as squirrels. Squirrel hunting can challenge the most skilled hunters, while at the same time offer entry-level opportunities to the novice. With the longest season of any of Missouri's small game species, a daily limit of 10, and good populations, squirrel hunting offers plentiful opportunities with little financial investment. Quite possibly the most endearing quality of squirrel hunting is that it can be an excellent opportunity to get kids outdoors and in touch with nature, teaching them life skills hard to get anywhere else.

### A Rich Heritage

Missouri has a strong squirrel hunting heritage going back long before the first regulated season in 1905. Four-thousand-year-old evidence unearthed by archeologists show the diets of Missouri's earliest human inhabitants included squirrels, presumably abundant in the surrounding forest lands.



Newspaper accounts from European settlers documented the hunting of squirrels for food as well as for protecting their crops from events such as the Great Squirrel Invasion of 1839 in Franklin County, Missouri.

And still today, despite the many competing interests that divert us from outdoor activities, squirrel hunting remains the most pursued small game species of Missouri hunters.

### Easy to Get Started

No specialized gear is needed to hunt squirrels. A .22 caliber rifle or shotgun, preferably 410 or 20-gauge, is all the equipment required to be a successful squirrel hunter. And unlike hunting many other species, no special clothing is required. Most seasoned squirrel hunters will tell you to wear camouflage as an added measure of concealment, but many a squirrel

has been harvested by hunters donning faded blue jeans and an old work coat.

**Squirrel hunting can be an excellent opportunity to get kids outdoors and in touch with nature**

### Small Size, Big Fun

Gray squirrels tip the scales at a little over a pound, on average. Their cousin, the fox squirrel, can occasionally weigh up to 3 pounds. However, don't let their small size fool you. Squirrels are a formidable opponent, and given their abundance, opportunity abounds statewide.

With much of the attention focused on big game species like deer and turkey, squirrels tend to fly under the radar with many of today's hunters. This is not a bad thing. Given the competition for places to hunt, the necessary gear, and amount of effort per encounter, pursuing those big game species can be intimidating for a beginning hunter, a family just looking to spend some quality time teaching their kids outdoor skills, or a millennial spending time with friends acquiring locally sourced food.

**With minimal gear needed and almost guaranteed action, squirrel hunting is a great way to get kids outdoors and introduce them to hunting.**



Eastern gray squirrel

Missouri is home to three species of tree squirrels:

- the **eastern gray squirrel** (*Sciurus carolinensis*)
- the **eastern fox squirrel** (*Sciurus niger*)
- the **southern flying squirrel** (*Glaucomys Volans*)

Of the three species, **only the gray and fox squirrels** are legal to hunt.



Southern flying squirrel



Eastern fox squirrel

Squirrel behavior and activity change throughout the year as they respond to weather patterns and food availability. For example, a mulberry tree full of fruit could be a hotspot in June, but by October, squirrels feed on nuts and acorns. Popular squirrel foods include:

**Spring:** tree buds, mushrooms, seeds of elms, maples, and oaks

**Summer and fall:** mulberries, hickory nuts, pecans, acorns, corn, walnuts, wild grapes, and hedgeapples

**Winter:** nuts, acorns, bark, corn, and buds



Squirrels have been referred to as a “gateway” species for getting youth involved in hunting. Hunting big game is challenging and involves mastering the skills of patience, attention to detail, and stealth to be successful on a consistent basis. These skills, though not as critical, are also necessary for hunting squirrels and can be acquired at a pace that today’s kids require to stay interested and engaged. Squirrel hunting generally produces a lot of action, thus ample opportunities for a successful harvest each time you venture into the woods.

In addition to abundant harvest opportunities, squirrel hunting offers many other benefits. A squirrel hunter will learn to identify trees and other plants in Missouri’s woods, read signs left by squirrels and other critters sharing the same habitat, hone gun handling and hunter safety skills, learn to trust their instincts, and build self-confidence.

## Locally Sourced Sustainable Food

In 2016, Missouri hunters harvested nearly 600,000 squirrels, equating to approximately 300,000 pounds of high-quality, locally sourced protein. Squirrel, when handled and prepared properly, can provide a delectable meal that is sure to satisfy even the most sensitive of palates. Many species of Missouri wildlife can provide quality, locally sourced food, but few can match the action, harvest opportunities, ease of hunting access, degree of challenge for both novice and skilled hunters, and fine dining offered by Missouri squirrels.

## Getting Started

Squirrel hunting is convenient, with a long season, abundant opportunities, and easy access to public lands from nearly any community in Missouri. If you’re a seasoned hunter, but haven’t hunted squirrels in years, grab a beginning hunter and become a mentor.

For more information, check out MDC’s new publication, *Basic Hunting for Common Missouri Game Species — Squirrel*. It is available free to Missouri residents by emailing *Basic Hunting for Common Missouri Game Species — Squirrel* and your shipping address to [pubstaff@mdc.mo.gov](mailto:pubstaff@mdc.mo.gov).

To find public lands open to squirrel hunting near you, visit [short.mdc.mo.gov/ZNc](http://short.mdc.mo.gov/ZNc) or contact your local outdoor education specialist. ▲



Another satisfied hunter. With abundant squirrel populations, squirrel hunting is sure to put a smile on anyone’s face.

## ROSEMARY PARMESAN SQUIRREL

Makes 4 servings

### Ingredients

3 squirrels, cut in pieces  
2 cups flour  
Olive oil  
¼ cup white wine (white zinfandel or Liebfraumilch)  
1 teaspoon rosemary  
¼ cup sun-dried tomatoes (chopped coarsely)  
¼ teaspoon salt  
¼ teaspoon coarse black pepper  
2 chicken bouillon cubes  
Brown rice (for 4 servings)  
¾ cup cream or half and half  
½ package onion soup mix  
1 cup fresh Parmesan cheese, grated

### Instructions

**PLACE** flour in bag, add meat, and shake until thoroughly covered. In large frying pan, heat olive oil until it’s almost but not quite smoking. Place meat in pan and brown on all sides. Just before meat is completely browned, add 2 pats of butter to oil to finish browning. Remove and drain and cook meat in wine in a shallow sauté pan, covered, on medium-low heat for about 15 minutes to tenderize. Remember to turn occasionally.

**PUT** chopped tomatoes, rosemary, salt, pepper, and bouillon cubes in water and bring to a boil. Add rice and cook according to directions on rice package. Stir and fluff to distribute rosemary and tomatoes evenly.

In a sauté pan on low heat, **BLEND** cream, onion soup mix, and half of the Parmesan cheese. Stir constantly until the mixture is smooth and the cheese is melted into the sauce. Salt to taste. Use white pepper, if desired. Serve squirrel over a bed of rice, spoon sauce over top, and garnish with remaining Parmesan cheese.



Dave Hoover is MDC’s small game coordinator. He enjoys hunting quail and other upland game birds with family and friends and promoting habitat management for the benefit of Missouri’s small game.

# Speak Softly and Carry a Big Stick

A WALK IN THE MARSH WHILE LEARNING  
THE ART OF FROG GIGGING

by Lauren Hildreth

One hot and muggy July evening, I found myself knee deep in water and mud at Eagle Bluffs Conservation Area, southwest of Columbia. The evening's mission consisted of walking the marsh in search of frogs. With gig and light in hand, my gigging mentor, Jenna Stiek, an MDC Stream Team biologist, and I combed various pools and ponds on the conservation area looking for our target species, the **green frog** and American bullfrog.



JIM RATHER



Looking over the marsh at sunset, I had no idea what the evening would entail. But with two friends out in nature, what could go wrong?

PHOTOGRAPH BY  
DAVID STONNER

## Frog Gigging 101

"Frogs are one of the most underutilized of our small game species, and opportunity abounds around the state," said MDC's Small Game Coordinator Dave Hoover.

Frog season opens at sunset on June 30 and runs through Oct. 31.

The supplies for frog gigging are simple: a light, shoes you don't mind getting muddy and wet, a gig, a mesh bag to hold the frogs, and a positive attitude. I used hip boots, and Jenna used a set of chest waders. She led the way through most of the pools in case there was a deeper spot; I really didn't want water to overtop my hip boots.

We used headlamps for a light source, as they keep both hands free to use the gig. They also, however, attract bugs to your forehead. I ate a fair number of bugs that evening, but what's the harm in a little extra protein? A handheld spotlight works well when two people are working together. This allows for one person to maintain a spot on the frog and the other to gig. Often a handheld spotlight is more powerful than headlamps, which allows for greater visibility in the darkness.

## What Did I Get Myself Into?

After walking a few ponds without success, we finally heard a bullfrog and found its characteristic eyeshine.

"You want to give it a try?" Jenna asked, probably expecting a gung-ho response from me.

Even though she had me take trial shots at floating algae when we first got to the area, I was a little too nervous to try without first seeing how it's done. I watched as she carefully waded over to the frog, lined up her gig and with one swift motion gigged her unsuspecting target. She brought her bounty over, still on the gig, so I could see the proper gig placement. After giving the frog a swift hit on the head, she put her harvest away in a mesh bag.

## An Entry Level Activity

Because it is relatively simple, doesn't require expensive equipment, and can be done virtually anywhere in Missouri where lakes and ponds exist, frog gigging is an easy hobby to start and a great way to introduce kids to hunting.

"I got started gigging with my dad and grandpa when I was around 5," Jenna said. "I would go out with them and hold the spotlight."

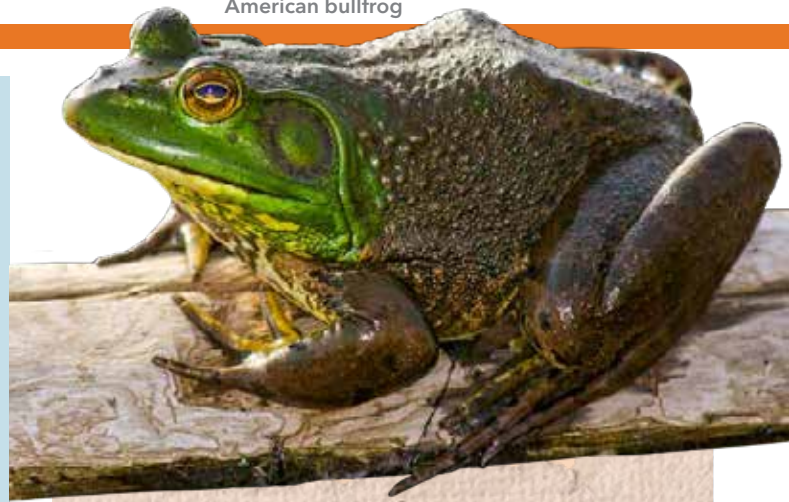
Running around in the mud is a fun way to get outside and enjoy our natural resources. Frogs are found in so many places, there's probably a great frogging pond near your house. MDC has many conservation areas around the state, and if you check out MDC's *Small Game Hunting Prospects* brochure (available online at [short.mdc.mo.gov/ZGt](http://short.mdc.mo.gov/ZGt)), you can find areas near you that provide good opportunity for catching frogs. Just make sure you know the regulations no matter where you go.



GIGGING: DAVID STONNER; AMERICAN BULLFROG: JIM RATHER

We worked on our teamwork as Jenna (left, with spotlight) taught me proper technique. Floating algae was easy target practice; it moves less than a frog.

Supplies for gigging are simple:  
a light, a gig, and boots.



### Allowed Methods and Required Permits

I chose to use a gig during my first attempt at frogging, but there are several legal methods for harvesting a frog, depending on the type of permit you hold. I went with the Small Game Hunting and Fishing Permit to make sure I was legal for all allowable methods.

In addition to the combined Small Game Hunting and Fishing Permit, frogs can be taken with either a fishing permit or a small game hunting permit. Some methods are specific to the type of permit held, and some methods are allowed under either type of permit.

#### Methods Requiring a Fishing Permit

- Gig
- Trotline
- Throw line
- Limbline
- Bank line
- Jug line
- Snagging
- Snaring
- Grabbing
- Pole and line

#### Methods Requiring a Hunting Permit

- .22-caliber or smaller rimfire rifle or pistol
- Pellet gun
- Crossbow

#### Methods Requiring Either a Fishing or Hunting Permit

- Atlatl
- Bow
- Hand or handnet
- Artificial lights

Because spotlighting is an effective means of locating frogs, most frog hunting occurs at night, but regulations allow for hunters to pursue frogs day and night. Frogs are active during the day as well, but there's no need to use a spotlight.

#### Prohibited Methods

You may not possess night vision or thermal imagery equipment while carrying a firearm, bow, or other implement used to take wildlife.



It's important to keep the light on the frog once you find them. It illuminates them and keeps them hypnotized. Jenna was a great spotlight holder and an extraordinary frog remover. I definitely couldn't have harvested my bullfrog without her guidance.



Cleaning frogs is a simple process and can be done with nothing more than hand pruners.



## Fried Frog Legs

### Ingredients:

- 1 cup flour
- 1 cup crushed saltine crackers
- ¼ cup cornstarch
- 1 tablespoon black pepper
- 1 tablespoon seasoned salt
- 1 tablespoon lemon pepper salt
- 2 eggs
- 1 cup milk
- 2 quarts peanut oil

### Instructions:

Thaw a possession limit of frog legs (16 pairs), drain, and pat dry with paper towels. Heat oil to 375F. Combine dry ingredients in a large plastic bowl with lid. Dip legs into milk and egg mixture, then drop into bowl with dry ingredients. Cover bowl and shake. Drop legs in hot oil and cook until golden brown.

## On Notice

After stowing away her successful harvest, Jenna put me on notice that my time as an observer was over.

“Alright, next one is yours,” she said.

I straightened my headlamp and set off with greater determination to bring home some frog legs, but after walking another pool and not hearing any frogs calling, I was getting disheartened that I wouldn’t bring home any fare for the table.

Suddenly, we caught sight of a frog’s eyeshine, and it was time to put my lessons into practice. With Jenna holding a spotlight on the frog, I thought through her earlier guidance: line up the gig right behind the eyes; use one fluid motion; and don’t immediately pick the gig back up so you don’t lose the frog. I got the first two right but completely forgot the last bit. I immediately pulled my gig back up, and my frog was nowhere to be found. I really didn’t like the idea of not bringing that one home with me, but I knew it would be food for another wildlife species.

Luckily, we found another frog not too far from my missed opportunity. Again, I mentally thought through the checklist: line up, one quick motion, and stay. This time I didn’t move. I yelled for Jenna to help because I didn’t want to lose this one. We got my harvest up, off the gig, and into the mesh bag. Success! I had harvested a frog and couldn’t wait to eat some delicious frog legs.

## “Taking the Pants Off”

Since the frogs weren’t very active this evening, and we each had a frog in hand, we decided to call it a night. A two-frog night was a little disappointing, but at six months pregnant, I couldn’t wait to get out of the borrowed hip boots and back into my sandals. With the harvest behind us, my next lesson was how to field dress a frog, or in other words, how to “take the pants off” a frog.

Jenna demonstrated with her harvested frog and then it was my turn. We separated the legs from the torso with hand pruners. From that point, it’s easy to take the skin off the legs, thus the idea of taking the pants off. Once the skin was removed, we cut the feet off and the legs were ready to cook.

## “Next One is Yours!”

Frog gigging is a simple and exciting activity for all ages. “All you need is a light and a net, and you can pursue frogs,” Hoover said.

I now see how true that is. Just a little time on a pond or in a wetland and you can come home with some tasty frog legs for your table. I’m already looking forward to my next stroll through the mud. ▲

*Lauren Hildreth is a program supervisor for the Wildlife Division. She enjoys exploring Missouri’s outdoors with her family and dog.*

# Get Outside

in JUNE → Ways to connect with nature



## National Prairie Day

Give a salute to prairies on June 1 and plant some native wildflowers like **New England asters**, **butterfly milkweed**, or **purple coneflowers** in your yard.



## Watch Where You Mow

**Butterfly milkweed** is blooming along roadsides. If you live — and typically mow — along these roadways, give your lawnmower a break. This is an important plant for monarchs. The nectar is a favorite, and the leaves are eaten by the monarch's caterpillars.



## Blast the Trumpet

**Black trumpet mushrooms** appear.

Known as the black chanterelle, these edible mushrooms have a smoky, rich flavor. They blend in well with the forest floor, so it takes a keen eye to spot them. Be on the lookout.

ST. LOUIS REGION

## Family Beginning Archery

Saturday, June 15 • 8:00-9:30 a.m.

Jay Henges Shooting Range

1100 Antire Road, High Ridge, MO 63049

Registration required. Call 888-283-0364 to register by June 14.

Call 636-938-9548 for event information.

Ages 9 and older

Join our instructors as we learn the fundamentals of shooting a compound bow. This program begins in the education center then moves to the static archery range. This is a fun program for the entire family.

### Natural Events to See This Month

Here's what's going on in the natural world.



Yuccas bloom



Look for ball-like schools of young bullhead catfish



Northern bobwhites hatch through end of summer



## Take Dad Fishing

On June 8-9 (the weekend before Father's Day), take your dad to the nearest fishing hole for Free Fishing Days. During that weekend, he won't need a fishing permit, trout permit, or daily tag. (You'll both need to follow other fishing rules, though.) If after that weekend he's hooked, surprise him on Father's Day with a permit so he can cast a line year-round. You can purchase a permit online at [mdc.mo.gov/permits](http://mdc.mo.gov/permits).



Brown trout

### SOUTHWEST REGION

## Crossbow

Saturday, June 22 •  
8:30-11:30 a.m.  
Andy Dalton  
Shooting Range  
4897 N. Farm Road 61,  
Ash Grove, MO 65604  
Registration required.  
Call 888-283-0364 to  
register by June 22.  
Call 417-742-4361 for  
event information.  
All ages

Advance your knowledge of shooting and hunting with your crossbow, safely and effectively. We will cover crossbow terms, hand placement, stance, loading, and drawing. We will also cover optics, care and cleaning, and storage. We will discuss the difference between bolts and arrows, practice points versus hunting points, and shoot on the static and 3-D range. Youth under 15 years of age must be accompanied by an adult.



### SOUTHEAST REGION

## Father's Day Wade Fishing

Saturday, June 15 • 9 a.m.-2 p.m.  
Cape Girardeau Conservation Nature Center  
2289 County Park Drive, Cape Girardeau, MO 63701  
Registration required. Call 888-283-0364 to register by  
June 15. Call 573-290-5218 for event information.  
Ages 7 and older

Have you ever been wade fishing? This Father's Day weekend you can bring your children and come learn about the basics and fun of stream wade fishing. Parents must register themselves with their children. Participants will be picked up (9 a.m.) and dropped off (2 p.m.) at the Cape Girardeau Conservation Nature Center. All equipment provided.

## Give a Croak

Bullfrog and green frog season opens at sunset on June 30. They can be harvested in a number of ways with either a hunting or a fishing permit. For more information, visit [short.mdc.mo.gov/ZNx](http://short.mdc.mo.gov/ZNx).



Snapping turtles and spiny softshell turtles lay eggs



# Places to Go

## ST. LOUIS REGION

### Powder Valley Conservation Nature Center

An oasis of quiet with an explosive history

by Larry Archer

✳ **Powder Valley Conservation Nature Center (CNC)** offers visitors a type of quiet unexpected from an area with such an explosive past.

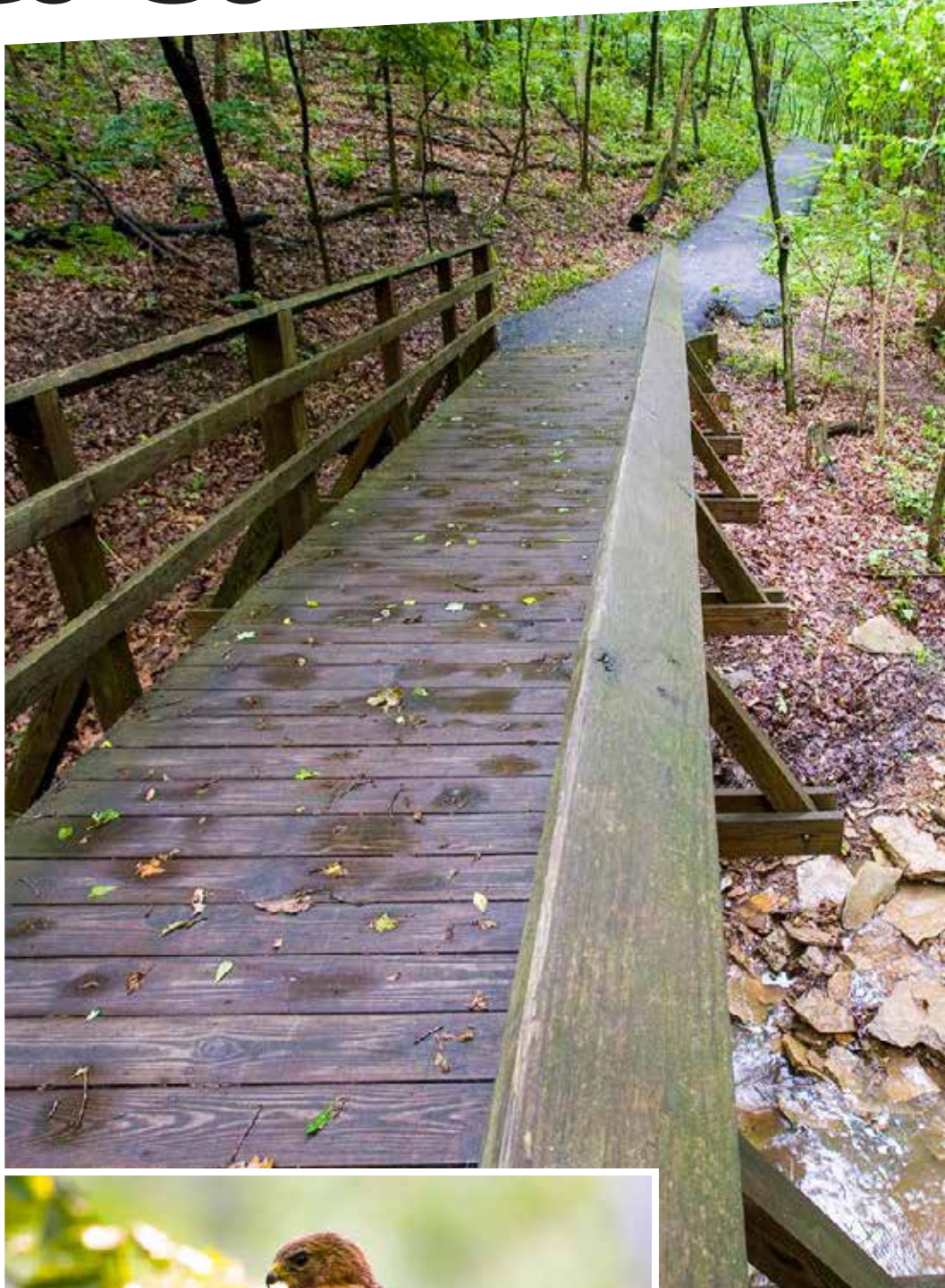
According to local lore, Union militia stored explosives in the area to counter an anticipated Confederate attack on St. Louis. Decades later, World War I-era munitions were manufactured and stored in the area.

Now the 112-acre area, which is located in St. Louis County, is known more for blooms than booms and is a getaway for those seeking a natural respite from the urban environment, according to Powder Valley CNC Manager Tamie Yegge.

“A lot of people are here to use the trails,” Yegge said. “On rainy days, they’re in the building.”

Despite its proximity to St. Louis, Powder Valley CNC has an active wildlife population, she said. The center’s bird-viewing area draws not only the sought-after songbirds that come to its feeders, but also raptors such as the red-shouldered hawk and other predators such as coyotes and foxes.

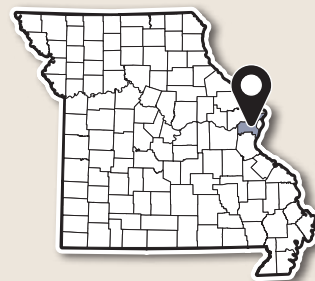
“They actually hunt near the feeders because the feeders bring the squirrels in, so if you get here early morning, sometimes you get a glimpse of that,” Yegge said. “The bird-viewing area is quite a hotspot for nature in action.”



Red-shouldered hawk

With nearly 2 ¾ miles of trails, including a number that cross and run adjacent to local streams, Powder Valley CNC offers visitors a chance to get out into the area’s mostly forested 112 acres.

DAVID STONNER



## POWDER VALLEY CONSERVATION NATURE CENTER

consists of 112 acres in St. Louis County.

On I-44, take the South Lindbergh Boulevard exit south ½ mile, then Watson Road west, then Geyer Road north to Cragwold Road. Turn west on Cragwold and watch for signs.

N38° 83' 7.92" | W90° 25' 42.6"

[short.mdc.mo.gov/ZZq](http://short.mdc.mo.gov/ZZq) 314-301-1500

### WHAT TO DO WHEN YOU VISIT



**Bird-Watching** Included on the Great Missouri Birding Trail ([short.mdc.mo.gov/ZNM](http://short.mdc.mo.gov/ZNM)). The eBird list of birds recorded at Powder Valley CNC is available at [short.mdc.mo.gov/ZNQ](http://short.mdc.mo.gov/ZNQ).



**Hiking** Nearly 2¾ miles of designated trails, including the ½-mile, wheelchair-accessible Tanglevine Trail.



**Tours** Staff-guided nature tours available with advanced registration.

"I like Broken Ridge Trail. That's where, when I'm out, I spend time walking. That trail's a little bit more remote from the main trails down here, and it's good wildlife, good wildflowers, good views."

— Powder Valley Conservation  
Nature Center Manager Tamie Yegge

### WHAT TO LOOK FOR WHEN YOU VISIT



Western ratsnake



Striped skunk



Red fox



Pileated woodpecker



## Eastern Prickly Pear Cactus

*Opuntia humifusa*

### Status

Indigenous to the Americas, about 200 species in the genus *Opuntia*

### Size

Grows along the ground, sometimes forms low mounds

### Distribution

Statewide



### Did You Know?

The fruits and young pads of some species of prickly pears are eaten in regions where cacti are more common. Prickly pear candy is made in the desert southwest. In addition, prickly pear pads — known as nopales — are sliced, canned, and sold in the Hispanic section of some grocery stores. Try them in Mexican-style scrambled eggs!

**T**he prickly pear is a low spreading succulent cactus that grows in sunny, dry places. It's typically found in rocky areas of upland prairies, sand prairies, glades, tops and exposed ledges of bluffs, and rocky stream terraces. Prickly pear's distinctive large, paddlelike green parts are technically thickened, flattened stems. Its true leaves are the conical protuberances that last a short time before drying and falling off. Yellow flowers bloom from May through July. Prickly pears produce an edible, purplish-red, pear-shaped fruit.



### ECOSYSTEM CONNECTIONS

Prickly pears have clusters of one to six spines at the base of each leaf. These spines serve the plant in at least two ways. First, they deter herbivores from eating them. Second, the spines hook onto animals as they graze, facilitating the plant's distribution elsewhere.

# Outdoor Calendar

❖ MISSOURI DEPARTMENT OF CONSERVATION ❖

## Buy Permits and Permit Card

Buy Missouri hunting and fishing permits from numerous vendors around the state, online at [mdc.mo.gov/buypermits](http://mdc.mo.gov/buypermits), or through our free mobile apps, MO Hunting and MO Fishing. Permit cards are an additional way to show proof of most permits. Buy a new permit card for a one-time fee of \$2 at [mdc.mo.gov/buypermits](http://mdc.mo.gov/buypermits). Buyers can select from four images: bass, buck, bluebird, or mallard duck.



## FISHING

### Black Bass

Impounded waters and non-Ozark streams:  
Open all year

Most streams south of the Missouri River:  
May 25, 2019–Feb. 29, 2020

### Bullfrogs, Green Frogs

June 30 at sunset–Oct. 31, 2019

### Nongame Fish Giggling

Impounded Waters, sunrise to sunset:  
Feb. 1–Sept. 14, 2019

Streams and Impounded Waters,  
sunrise to midnight:  
Sept. 15, 2019–Jan. 31, 2020

### Paddlefish

On the Mississippi River:  
Sept. 15–Dec. 15, 2019

### Trout Parks

Catch-and-Keep:  
March 1–Oct. 31, 2019

Catch-and-Release:  
Nov. 8, 2019–Feb. 10, 2020

## HUNTING

### Bullfrogs, Green Frogs

June 30 at sunset–Oct. 31, 2019

### Coyote

*Restrictions apply during April, spring turkey season, and firearms deer season.*

Open all year

### Crow

Nov. 1, 2019–March 3, 2020

### Deer

Archery:  
Sept. 15–Nov. 15, 2019  
Nov. 27, 2019–Jan. 15, 2020

Firearms:

- ▶ Early Youth Portion (ages 6–15):  
Nov. 2–3, 2019
- ▶ November Portion:  
Nov. 16–26, 2019
- ▶ Late Youth Portion (ages 6–15):  
Nov. 29–Dec. 1, 2019
- ▶ Antlerless Portion (open areas only):  
Dec. 6–8, 2019
- ▶ Alternative Methods Portion:  
Dec. 28, 2019–Jan. 7, 2020

### Groundhog (woodchuck)

May 6–Dec. 15, 2019

### Pheasant

Youth (ages 6–15):  
Oct. 26–27, 2019

Regular:  
Nov. 1, 2019–Jan. 15, 2020

### Quail

Youth (ages 6–15):  
Oct. 26–27, 2019

Regular:  
Nov. 1, 2019–Jan. 15, 2020

### Rabbit

Oct. 1, 2019–Feb. 15, 2020

### Squirrel

May 25, 2019–Feb. 15, 2020

### Turkey

Archery:  
Sept. 15–Nov. 15, 2019  
Nov. 27, 2019–Jan. 15, 2020

Firearms:  
▶ Fall: Oct. 1–31, 2019

### Waterfowl

See the Waterfowl Hunting Digest or visit [short.mdc.mo.gov/ZZx](http://short.mdc.mo.gov/ZZx) for more information.

For complete information about seasons, limits, methods, and restrictions, consult the *Wildlife Code of Missouri* at [short.mdc.mo.gov/Zib](http://short.mdc.mo.gov/Zib). Current hunting, trapping, and fishing regulation booklets are available from local permit vendors or online at [short.mdc.mo.gov/ZZf](http://short.mdc.mo.gov/ZZf).



**Follow us  
on Instagram**

@moconservation

Stop and smell the flowers. There are lots of native wildflowers in bloom this month, including purple coneflower and tickseed coreopsis. What's blooming in your neck of the woods? For help with identification, check out our online *Field Guide* at [mdc.mo.gov/field-guide](https://mdc.mo.gov/field-guide).

📷 by **David Stonner**

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